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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,461	12/26/2001	Michael Kaschke	00118	2947

7590 12/03/2004

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EXAMINER


CHOI, WILLIAM C

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p align="center">10/025,461</p>	<p>Applicant(s)</p> <p align="center">KASCHKE ET AL.</p>	
	<p>Examiner</p> <p align="center">William C. Choi</p>	<p>Art Unit</p> <p align="center">2873</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,12-14,16,21-25,29 and 35 is/are allowed.
- 6) ☒ Claim(s) 1,3-11,15,17-21,26-28,30-34 and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1104</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

Receipt of the Information Disclosure Statement (IDS) with the copies of the references cited therein was received on November 2, 2004. An initialized copy of the IDS is enclosed with this office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 5-7, 15, 17, 19-21, 26-28 and 30 are rejected under 35

U.S.C. 102(e) as being anticipated by Kelly (U.S. 6,239,908 B1).

In regard to claims 1 and 15, Kelly discloses a stereoscopic display system (Figure 4) comprising: a single display for displaying right and left partial images sequentially in time (column 5, lines 49-53, Figure 4, "202"); a first optical arrangement for defining a common viewing beam path along which said right and left partial images are transmitted (column 5, lines 50-53, Figure 4, "206"); a second optical arrangement for splitting said common viewing beam path into separate first and second component

beam paths for viewing only said left and only said right partial images, respectively (column 5, lines 53-61, Figure 4, "208") and a switchover device for alternately coupling information shown on said display from said common viewing beam path separately into said first and second component beam paths in synchronism with the presentation of said left and right partial images on said display (column 5, lines 28-33, re "means for alternating the polarization state of the displayed image" & Figure 4, "208").

Regarding claims 3 and 17, Kelly discloses wherein said switchover device includes a polarization switch mounted in said common viewing beam path (column 5, lines 31-33, Figure 4, "208") and would inherently comprise a light source for transmitting light along an illuminating beam path toward said display, this being reasonably assumed from Kelly disclosing wherein said image display comprises a conventional liquid crystal array (column 5, lines 28-30), which would need a light source in order to operate.

Regarding claim 5 and 19, Kelly discloses wherein the second optical arrangement comprises a polarization beam splitter for splitting said common viewing beam path into said first and second component beam paths (column 5, lines 31-33, Figure 4, "208").

Regarding claims 6 and 20, Kelly discloses wherein the switchover device includes a polarization switch mounted in said common viewing beam path (column 5, lines 28-33, re "means for alternating the polarization state of the displayed image" & Figure 4, "208").

Regarding claims 7 and 21, Kelly discloses wherein the second optical arrangement includes a transfer optic in one of the separate first and second component beam paths (column 5, lines 39-40, Figure 4, "214").

In regard to claims 26, Kelly discloses a stereoscopic display system (Figure 4) comprising: a single display for displaying right and left partial images sequentially in time (column 5, lines 49-53, Figure 4, "202"); a first optical arrangement for defining a common viewing beam path along which said right and left partial images are transmitted (column 5, lines 50-53, Figure 4, "206"); a second optical arrangement for splitting said common viewing beam path into separate first and second component beam paths for viewing only said left and only said right partial images, respectively (column 5, lines 53-61, Figure 4, "208"); a switchover device for alternately coupling information shown on said display from said common viewing beam path separately into said first and second component beam paths in synchronism with the presentation of said left and right partial images on said display (column 5, lines 28-33, re "means for alternating the polarization state of the displayed image" & Figure 4, "208"); and said switchover device including a polarization switch mounted in said common viewing beam path (column 5, lines 31-33, Figure 4, "208") and a polarization beam splitter for splitting said common viewing beam path into said first and second component beam paths (column 5, lines 31-33, Figure 4, "208").

Regarding claim 27, the display system of Kelly would inherently comprise a light source for transmitting light along an illuminating beam path toward said display, this being reasonably assumed from Kelly disclosing wherein said image display comprises

a conventional liquid crystal array (column 5, lines 28-30), which would need a light source in order to operate.

Regarding claim 28, Kelly discloses wherein the switchover device includes a polarization switch mounted in said common viewing beam path (column 5, lines 28-33, re "means for alternating the polarization state of the displayed image" & Figure 4, "208").

Regarding claim 30, Kelly discloses wherein the second optical arrangement includes a transfer optic in one of the separate first and second component beam paths (column 5, lines 39-40, Figure 4, "214").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly as applied to claim 1 above, and further in view of Heacock et al (U.S. 5,539,422).

In regard to claims 8 and 9, Kelly discloses the stereoscopic display system as set forth above, but does not specifically disclose wherein said display system is integrated into a spectacle frame, which can be worn by a person on the head.

However, Kelly does disclose wherein the display system is used in a binocular system (column 1, lines 16-19) and within the same field of endeavor, Heacock et al teaches

wherein it is well known to incorporate stereoscopic display systems in binoculars or head-up display systems (i.e. spectacle frame) (column 16, lines 19-29, Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the stereoscopic display system of Kelly to be incorporated into a spectacle frame, which can be worn by a person on the head, since Kelly does disclose wherein the display system is used in a binocular system and Heacock et al teaches wherein it is well known to incorporate stereoscopic display systems in binoculars or head-up display systems.

Regarding claim 10, Kelly discloses wherein said second optical arrangement including a beam splitter for splitting said common viewing beam path into said first and second component beam paths (column 5, lines 31-33, Figure 4, "208"); and, said first optical arrangement including a deflecting mirror disposed between said display and said beam splitter (column 5, lines 34-37, Figure 4, "206").

Claims 31-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly as applied to claim 26 above, and further in view of Heacock et al.

In regard to claims 31 and 32, Kelly discloses the stereoscopic display system as set forth above, but does not specifically disclose wherein said display system is integrated into a spectacle frame, which can be worn by a person on the head. However, Kelly does disclose wherein the display system is used in a binocular system (column 1, lines 16-19) and within the same field of endeavor, Heacock et al teaches wherein it is well known to incorporate stereoscopic display systems in binoculars or head-up display systems (i.e. spectacle frame) (column 16, lines 19-29, Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the stereoscopic display system of Kelly to be incorporated into a spectacle frame, which can be worn by a person on the head, since Kelly does disclose wherein the display system is used in a binocular system and Heacock et al teaches wherein it is well known to incorporate stereoscopic display systems in binoculars or head-up display systems.

Regarding claim 33, Kelly discloses wherein said switchover device includes a polarization switch mounted in said common viewing beam path (column 5, lines 31-33, Figure 4, "208") and would inherently comprise a light source for transmitting light along an illuminating beam path toward said display, this being reasonably assumed from Kelly disclosing wherein said image display comprises a conventional liquid crystal array (column 5, lines 28-30), which would need a light source in order to operate.

Regarding claim 34, Kelly discloses wherein the polarization switch is mounted in said common viewing beam path (column 5, lines 28-33, re "means for alternating the polarization state of the displayed image" & Figure 4, "208").

Regarding claim 36, Kelly discloses wherein the second optical arrangement includes a transfer optic in one of the separate first and second component beam paths (column 5, lines 39-40, Figure 4, "214").

Allowable Subject Matter

Claims 2, 4, 11-14, 16, 18, 22-25, 29, 35, 37 and 38 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 2: a stereoscopic display system comprising a single display and first and second optical arrangements as claimed, specifically further comprising a mirror switchable into and out of a beam path, for alternately coupling information shown on said display from said common viewing beam path separately into said first and second component beam paths in synchronism with the presentation of the left and right partial images on the display.

The prior art fails to teach a combination of all the claimed features as presented in claims 4 and 37: a stereoscopic display system comprising a single display, first and second optical arrangements and a switchover device for alternately coupling information shown on said display as claimed, specifically further wherein said switchover device includes a partially transmitting mirror; polarization filters mounted in corresponding ones of said first and second component beam paths; and said polarization filters having respective pass-through directions crossed with respect to each other.

The prior art fails to teach a combination of all the claimed features as presented in claim 11: a stereoscopic display system comprising a single display for sequentially displaying right and left partial images and an optical arrangement for illuminating said display sequentially and including a polarization beam splitter as claimed, specifically

further wherein the optical arrangement illuminates said display sequentially in time with light having first and second directions of polarization different from each other.

The prior art fails to teach a combination of all the claimed features as presented in claim 12: a stereoscopic display system comprising a single display for sequentially displaying right and left partial images and an optical arrangement for illuminating said display sequentially and including a polarization beam splitter as claimed, specifically wherein the optical arrangement further includes two light sources for emitting respective beams of light and said polarization beam splitter being mounted to receive said beams of light and to coaxially superpose said beams of light one upon the other.

The prior art fails to teach a combination of all the claimed features as presented in claims 13 and 14: a stereoscopic display system comprising a single display and an optical arrangement including two light sources for emitting respective beams of light and a polarization beam splitter being mounted to receive said beams of light as claimed, specifically further comprising a color filter wheel common to both of said light sources and mounted downstream thereof.

The prior art fails to teach a combination of all the claimed features as presented in claim 16: a stereoscopic display system comprising a single display and first and second optical arrangements as claimed, specifically further comprising a mirror switchable into and out of a beam path, for alternately coupling information shown on said display from said common viewing beam path separately into said first and second component beam paths in synchronism with the presentation of the left and right partial images on the display.

The prior art fails to teach a combination of all the claimed features as presented in claims 18 and 38: a stereoscopic display system comprising a single display, first and second optical arrangements and a switchover device for alternately coupling information shown on said display as claimed, specifically further wherein said switchover device includes a partially transmitting mirror; polarization filters mounted in corresponding ones of said first and second component beam paths; and said polarization filters having respective pass-through directions crossed with respect to each other.

The prior art fails to teach a combination of all the claimed features as presented in claims 22-25: a stereoscopic display system comprising a single display and first and second optical arrangements as claimed, specifically further comprising a mirror switchable into and out of a beam path so as to permit information into a first and second component beam path in synchronism with the presentation of the left and right partial images on said display.

The prior art fails to teach a combination of all the claimed features as presented in claim 29: a stereoscopic display system comprising a single display, first and second optical arrangements and a switchover device comprising a polarization switch and beam splitter as claimed, specifically further wherein said switchover device includes a partially transmitting mirror; polarization filters mounted in corresponding ones of said first and second component beam paths; and said polarization filters having respective pass-through directions crossed with respect to each other.

The prior art fails to teach a combination of all the claimed features as presented in claim 35: a viewing system worn by a person on the head comprising a stereoscopic display system comprising a single display, first and second optical arrangements and a switchover device comprising a polarization switch and beam splitter as claimed, specifically further wherein said switchover device includes a partially transmitting mirror; polarization filters mounted in corresponding ones of said first and second component beam paths; and said polarization filters having respective pass-through directions crossed with respect to each other.

Response to Arguments

Applicant's arguments filed 9/13/2004 have been fully considered but they are not persuasive. Applicant points out that the Kelly reference (U.S. 6,239,908 B1) does not qualify as a 35 USC §102(b) reference. However, it does still qualify as a 35 USC §102(e) reference. Therefore, the rejection is maintained since there are have been no other arguments made towards the rejections.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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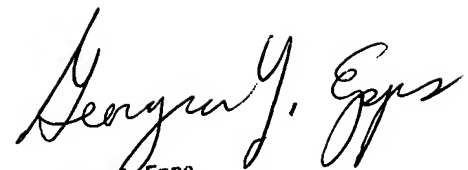
W.C.

William Choi

Patent Examiner

Art Unit 2873

November 26, 2004



Georgia Epps
Supervisory Patent Examiner
Technology Center 2800